REMARKS

Claims in the case are 2-10 and 12-31, upon entry of this amendment. Claim(s) 1 and 11 have been canceled, and Claims 2-10, 12, 13, 17-20, 23-26 and 30 have been amended herein. Claim 31 has been added by amendment herein. Claim 31 corresponds substantially to cancelled Claim 1, but has been rearranged and indented for purposes of improved clarity, and modified to overcome rejections thereto under 35 U.S.C. 112, paragraph 2, as will be discussed in further detail below. Claims 2-10, 12, 13, 17-20, 23-26 and 30 have been amended as to form, for example, changing dependence from "Claim 1" to --Claim 31--, preceding "(i)" with --said inner ply--, preceding "(b)" with --said outer ply--, and preceding "(l)" with --said multi-plied laminate--.

In the Office Action of February 9, 2001, Claims 1-30 are objected to with regard to the terms "first polymeric resin" and "second polymeric resin." In accordance with the Examiner's suggestion, the claims have been amended herein to replace "first" with --outer ply--, and "second" with --inner ply--. In light of the amendments to the claims herein, reconsideration and withdrawal of the objections to all of the pending claims is respectfully requested.

Claims 1-30 stand rejected under 35 U.S.C. 112, second paragraph, with regard to the term "asymmetric." This rejection is respectfully traversed in light of the amendments herein and the following remarks.

The claims have been amended to remove the term "asymmetric." In particular, the phrase "having an asymmetric structure" is not present in added Claim 31, which corresponds to cancelled Claim 1.

In light of the amendments herein and the preceding remarks, Applicants' claims are deemed to particularly point out and distinctly claim the subject matter which they regard as their invention. Reconsideration and withdrawal of the rejection of Applicants' claims under 35 U.S.C. 112, paragraph 2 is respectfully requested.

Claims 1-30 stand rejected under 35 U.S.C. 112, second paragraph, with regard to the phrase "of the weight per area of said (l)." This rejection is respectfully traversed in light of the following remarks.

Applicants respectfully submit that the phrase "the weight per area of said inner ply (i) is at least 40 % of the weight per area of said multi-plied laminate (I)" does not render the claims indefinite. It is further respectfully submitted that one of ordinary skill in the art would know to calculate the weight per area, e.g., grams per 1 cm^2, using a combination of density and film thickness data, e.g., using the following equation: (area) x (layer thickness) x (density of the layer). The clarity of this phrase, and the relative ease by which a skilled artisan would perform the calculations relating thereto, can be demonstrated with reference to Example 2.1 on page 16 of the present specification. In Example 2.1 a two-ply laminate (I) according to the present invention, having the following representative structure, is described.

E/VA-1//E/VA-2

The polymeric resin of inner ply (i) is a copolymer of ethylene and vinyl acetate (i.e., E/VA-1), and the polymeric resin of outer ply (b) is E/VA-2. The physical properties of the inner and outer plies of the two-ply laminate of Example 2.1 are summarized herein in the following Table 1.

Table 1

	Polymeric Resin	Density (g/cm^3)	Thickness (μm)	MFR (g/10 min.)
Inner Ply (i)	E/VA-1	0.925	35	8
Outer Ply (b)	E/VA-2	0.925	15	2

The weight per 1 cm^2 of inner ply (i), outer ply (b) and the two-ply laminate (I) of Example 2.1 are summarized herein in the following Table 2.

Table 2

	Weight per $1cm^2$ (g)
Inner Ply (i)	3.24×10^{-3}
Outer Ply (b)	1.39×10^{-3}
Laminate (I)	4.63×10^{-3}

The weight per $1cm^2$ data for inner ply (i), outer ply (b) and laminate (I) as summarized in Table 2, were calculated as follows.

Inner Ply (i):

$(1\ cm^2) \times ((35 \times 10^{-6}m) \times (100cm/1m)) \times 0.925\ g/cm^3 = 3.24 \times 10^{-3}g$

Outer Ply (b):

$(1\ cm^2) \times ((15 \times 10^{-6}m) \times (100cm/1m)) \times 0.925\ g/cm^3 = 1.39 \times 10^{-3}g$

Laminate (I):

$3.24 \times 10^{-3}g + 1.39 \times 10^{-3}g = 4.63 \times 10^{-3}g$

Using the following equation and the data of Table 2, it can be further determined that the weight per area of inner ply (i) is at least 40 % of the weight per area of the multi-plied laminate (I) of Example 2.1.

{(weight per cm^2 of inner ply (i)) / (weight per cm^2 of multi-plied laminate (I))} x 100

$\{(3.24 \times 10^{-3}g) / (4.63 \times 10^{-3}g)\} \times 100 = 70\ \%$

In light of the preceding remarks, it is clear that: (1) the phrase "the weight per area of said inner ply (i) is at least 40 % of the weight per area of said multi-plied laminate (I)" does not render the claims indefinite; and (2) one of ordinary skill in the art would know how to easily perform calculations relating to this phrase. Accordingly, Applicants' claims are deemed to particularly point out and distinctly claim the subject matter which they regard as their invention. Reconsideration and withdrawal of the rejection of Applicants' claims under 35 U.S.C. 112, paragraph 2 is respectfully requested.

Claims 1-30 stand rejected under 35 U.S.C. 112, second paragraph, with regard to the term "MFR." This rejection is respectfully traversed in light of the amendments herein and the following remarks.

In accordance with the Examiner's recommendation, the term "MFR" occurs parenthetically after the first occurrence of the phrase "melt flow rate" in added Claim 31. In light of the amendments herein, Applicants' claims are deemed to particularly point out and distinctly claim the subject matter which they regard as their invention. Reconsideration and withdrawal of the rejection of Applicants' claims under 35 U.S.C. 112, paragraph 2 is respectfully requested.

Claims 1-3, 6-10, 13, 15, 17-20, 23 and 25 stand rejected under 35 U.S.C. 103(a) over United States Patent No. 5,334,428 (**Dobreski et al**). This rejection is respectfully traversed in light of the following remarks.

Dobreski et al describe multilayer coextruded three layer thermoplastic stretch wrap films. The three layer films of Dobreski et al have a single intermediate layer of low melt index (e.g., 0.5-2.5) linear low density polyethylene positioned between two outer layers of high melt index (e.g., > 2.5, such as 2.8-5.0) linear low density polyethylene. The high melt index linear low density polyethylene of the outer layers of Dobreski et al's films are further described as containing from 3.5 to 15 weight percent of n-hexane extractables, wherein the n-hexane extractables are present in an amount sufficient to cause the film to exert a cling force when in surface-to-surface contact with itself or another surface when used in the stretch overwrap packaging of articles. The linear low density polyethylene polymers of the intermediate and outer layers are described more specifically by Dobreski et al as each being a copolymer of ethylene and a minor amount of at least one alpha olefin having from 4 to 10 carbon atoms, e.g., 1-hexene and 1-octene alpha olefins.

It is particularly important to note that the melt index of the intermediate layer of Dobreski et al's films is **less than** the melt index of the outer layers. The inner ply (i) of Applicants' multi-plied laminate has a melt flow rate that is **greater than** the melt flow rate of the outer ply (b). The terms "melt index" and "melt flow rate" are synonymous. Dobreski et al does **not** describe, teach or fairly suggest a multilayer

film in which the intermediate layer has a melt flow rate that is greater than the melt flow rate of the exterior layers. In addition, Dobreski et al provides no motivation to prepare a multilayer film in which the intermediate layer has a melt flow rate that is greater than the melt flow rate of the exterior layers. Dobreski et al clearly teaches away from the multi-plied laminates of Applicants' present claims.

In light of the preceding remarks, it is clear that Dobreski et al does not render obvious the multi-plied laminate of Applicants' present claims. Reconsideration and withdrawal of the rejection of Applicants' present claims under 35 U.S.C. 103(a) as being unpatentable over Dobreski et al is respectfully requested.

Claims 26-29 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Dobreski et al in view of United States Patent No. 5,273,809 (**Simmons**). This rejection is respectfully traversed in light of the following remarks.

Simmons describes a multilayer thermoplastic stretch wrap film having at least two outer layers. At least one of the outer layers of Simmons' film comprises a copolymer of ethylene and a C_4-C_{20} alpha olefin, and further contains 3.5 to 15 weight percent of n-hexane extractibles. The other outer layer of Simmons' film is either: 1) the same as the other n-hexane extractibles containing outer layer; or 2) a layer possessing little inherent cling property (i.e., a non-cling layer), e.g., an LLDPE layer containing less than 3 weight percent of n-hexane extractibles.

On page 5 of the Office Action of February 9, 2001, it is argued that modifying the films of Dobreski et al with the non-cling layer of Simmons would result in the composite films of Applicants' Claims 26-29. Neither Dobreski et al nor Simmons provide any suggestion or motivation to **selectively** combine their respective teachings. The argument on page 5 of the Office Action appears to represent an attempt towards impermissible hindsight reconstruction of Applicants' present invention by picking, choosing and recombining various elements of the cited references.

As described previously herein, Dobreski et al teaches away from and clearly does not make obvious the multi-plied laminates of Applicants' present claims. Accordingly, the combination of Dobreski et al and Simmons, either in part or in whole, does **not** result in the composite films of Applicants' Claims 26-29.

In light of the preceding remarks, the combination of Dobreski et al and Simmons does not render obvious the composite films of Applicants' Claims. Reconsideration and withdrawal of the rejection of Claims 26-29 under 35 U.S.C. 103(a) as being unpatentable over Dobreski et al in view of Simmons is respectfully requested.

Claim 16 stands rejected under 35 U.S.C. 103(a) over Dobreski et al. This rejection is respectfully traversed in light of the following remarks.

Dobreski et al provides no suggestion, teaching, description or motivation as to the use of metallocene catalysts in the preparation of the linear low density polyethylene polymers of Dobreski et al's films. As described previously herein with regard to Claims 1-3, 6-10, 13, 15, 17-20, 23 and 25, Dobreski et al teaches away from and clearly does not make obvious the multi-plied laminates of Applicants' present claims. Correspondingly, the combination of Dobreski et al with metallocene catalysis would not result in the multi-plied laminate of Applicants' present Claim 16.

In light of the preceding remarks, Dobreski et al clearly does not render obvious the multi-plied laminate of Applicants' present Claim 16. Reconsideration and withdrawal of the rejection of Claim 16 under 35 U.S.C. 103(a) is respectfully requested.

Claims 1-10, 12, 13, 14, 17-19, 23, and 25-28 stand rejected under 35 U.S.C. 103(a) over United States Patent No. 6,110,570 (**Paleari et al**) in view of United States Patent No. 5,206,075 (**Hodgson, Jr**). This rejection is respectfully traversed with regard to the following remarks.

Paleari et al describe a multilayer heat shrinkable film, which includes, in order, an outer heat sealable layer (a), a first inner layer (b), a second inner layer (c) and a fourth layer (d). The multilayer heat shrinkable films of Paleari et al may further include additional polymeric layers between layers (a) and (b), and/or beyond layer (d). See column 2, lines 50-61 of Paleari et al. Paleari et al do not describe, teach or fairly suggest a multilayer heat shrinkable film in which each of the inner layers have a melt index that is less than the melt index of the outer heat sealable layer (a). In the multilayer films of Examples 1-21 of Paleari et al, each inner layer has a melt index value that is **less than** the melt index of the heat sealable outer

layer (a). The melt index of the heat sealable outer layer (a) is 6 g/10 min. in Examples 1-4 and 6-21, and 3 g/10 min. in Example 5, of Paleari et al. Each inner layer of Examples 1-4 and 6-21 of Paleari et al has a melt index of no greater than 3.0 g/10 min., and each inner layer of Example 5 has a melt index of no greater than 1.5 g/10 min. See column 11, line 60 through column 20, line 11 of Paleari et al.

Hodgson, Jr. describes a sealable polyolefin film, which includes: a base film layer comprising a blend of an olefin polymer and up to 30 percent by weight of a very low density copolymer of ethylene and a C_3-C_{20} alpha olefin; and a heat sealable film layer on one or both surfaces of the base film comprising a very low density copolymer of ethylene and a C_5-C_{12} alpha olefin. The ethylene / C_3-C_{20} alpha olefin and ethylene / C_5-C_{12} alpha olefin copolymers of Hodgson, Jr. are described as having a melt index in the range of 0.5 dg/min. to 7.5 dg/min. (i.e., 0.5 g/10 min. to 7.5 g/10 min.). Hodgson, Jr. does not describe or address differences between the melt index of the base film layer and the heat sealable layer. In particular, Hodgson, Jr. does **not** describe the melt index of the base film as being greater than the melt index of the heat sealable film layer.

It is argued on page 7 of the Office Action of 09 February 2001 that it would have been obvious for one of ordinary skill in the art to substitute the heat sealable layer of Hodgson Jr. for the heat sealable layer of Paleari et al. Aside from representing what appears to be an attempt towards impermissible hindsight reconstruction of Applicants' claims by picking, choosing and recombining various elements of the references, such a combination, in light of the preceding comments, clearly would **not** result in the multi-plied laminate of Applicants' present claims. Each inner ply (i) of Applicants' presently claimed multi-plied laminate (I) has a melt flow rate (i.e., melt index) that is **greater than** the melt flow rate of the outer ply (b).

In light of the preceding remarks, Applicants' claims are deemed to be patentable over Paleari et al and Hodgson Jr. Reconsideration and withdrawal of this rejection under 35 U.S.C. 103(a) is respectfully requested.

Claims 1-11, 13, 15, 17-21, 23, 25-28 and 30 stand rejected under 35 U.S.C. 103(a) over United States Patent No. 5,089,321 (**Chum t al**). This rejection is respectfully traversed with regard to the following remarks.

Chum et al describe multilayer thermoplastic film structures comprising at least one heat-sealable outer layer (A) and at least one core layer (B). The heat-sealable outer layer (A) is described by Chum et al as having a melt index of from 0.5 or 2 g/10 minutes to 20 g/10 minutes, and preferably from 3 g/10 minutes to 10 g/10 minutes; while the core layer (B) is described as having a melt index of from 0.05 g/10 minutes to 5 g/10 minutes, and preferably from 0.2 g/10 minutes to 1 g/10 minutes. See the abstract, and column 4, lines 25-35 of Chum et al. Chum et al does **not** describe the core layer (B) as having a melt index that is greater than the melt index of the outer heat-sealable outer layer (A). In fact, the melt index of the core layer (B) of Chum et al is preferably **less than** the melt index of the outer heat-sealable outer layer (A). Each inner ply (i) of Applicants' presently claimed multi-plied laminate (I) has a melt flow rate (i.e., melt index) that is **greater than** the melt flow rate of the outer ply (b).

In light of the preceding remarks, Applicants' claims are deemed to be patentable over Chum et al. Reconsideration and withdrawal of the rejection of Applicants' claims as being unpatentable over Chum et al under 35 U.S.C. 103(a), is respectfully requested.

Claim 24 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Chum et al. This rejection is respectfully traversed in light of the following remarks.

As described previously herein, Chum et al does **not** describe the core layer (B) as having a melt index that is greater than the melt index of the outer heat-sealable outer layer (A). The melt index of the core layer (B) of Chum et al is, however, described as being preferably **less than** the melt index of the outer heat-sealable outer layer (A). Each inner ply (i) of Applicants' presently claimed multi-plied laminate (I) has a melt flow rate (i.e., melt index) that is **greater than** the melt flow rate of the outer ply (b).

With regard to the preceding comments, Claim 24, which depends from added independent Claim 31, is deemed to be patentable over Chum et al. Reconsideration and withdrawal of the rejection of Claim 24 as being unpatentable over Chum et al under 35 U.S.C. 103(a) is respectfully requested.

In light of the preceding amendments and remarks, all of the presently pending claims are deemed to fulfill all of the requirements of 35 U.S.C. 112, and to define an invention that is unanticipated, unovbious and hence, patentable. Reconsideration of the rejections and allowance of all of the presently pending claims is respectfully requested.

Respectfully submitted,

HOLGER EGGERS
RUDI KLEIN

By James R. Franks

James R. Franks
Agent for Applicants
Reg. No. 42,552

Bayer Corporation
100 Bayer Road
Pittsburgh, Pennsylvania 15205-9741
(412) 777-8339
FACSIMILE PHONE NUMBER:
(412) 777-8363

s:/sr/jrf0043

VERSIONS WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION: (Marked-Up)

The following is a version of the paragraph at page 10, lines 3-11 with markings to show changes made thereto in the present Amendment.

[This has been achieved according to the invention by providing a multi-plied laminate (I) having an asymmetric structure comprising an outer ply (b), and at least one inner ply (i) wherein melt flow rate as determined in accordance with DIN ISO 1133 at 190°C and 2.16 kg (MFR) of (I) is at least 0.1 g/10 min., and wherein MFR of (b) is at least 0.1 g/10 min. The laminate is further characterized in that the weight per area of (i) is at least 40% of the weight per are of said (I). The outer ply comprise a first polymeric resin and the inner ply comprise a second, different, polymeric resin.]

This has been achieved according to the present invention by providing a multi-plied laminate (I) comprising:

an outer ply (b) having a melt flow rate (MFR), as determined in accordance with DIN ISO 1133 at 190°C and 2.16 kg, of at least 0.1g/10 min., and comprising an outer ply (or first) polymeric resin; and

at least one inner ply (i), each inner ply (i) having an MFR, as determined in accordance with DIN ISO 1133 at 190°C and 2.16 kg, that is greater than the MFR of said outer ply (b), and comprising an inner ply (or second) polymeric resin,

wherein the weight per area of said inner ply (i) is at least 40 % of the weight per area of said multi-plied laminate (I).

IN THE CLAIMS: (Marked-Up)

The following are versions of the amended claims with markings to show changes made thereto in the present Preliminary Amendment.

1. (Cancelled)

2. (Once Amended, Marked-Up) The multi-plied laminate of Claim [1] 31 wherein the MFR of said outer ply (b) is 0.1 to 3 g/10min.

3. (Once Amended, Marked-Up) The multi-plied laminate of Claim [1] 31 wherein the MFR of said outer ply (b) is 0.5 to 2 g/10 min.

4. (Once Amended, Marked-Up) The multi-plied laminate of Claim [1] 31 wherein the MFR of said inner ply (i) is at least twice the MFR of said outer ply (b).

5. (Once Amended, Marked-Up) The multi-plied laminate of Claim [1] 31 wherein the MFR of said inner ply (i) is at least thrice the MFR of said outer ply (b).

6. (Once Amended, Marked-Up) The multi-plied laminate of Claim [1] 31 wherein the weight per area of said inner ply (i) is at least 60 % of the weight per area of said multi-plied laminate (I).

7. (Once Amended, Marked-Up) The multi-plied laminate of Claim [1] 31 wherein the weight per are of said inner ply (i) is at least 70 % of the weight per area of said multi-plied laminate (I).

8. (Once Amended, Marked-Up) The multi-plied laminate of Claim [1] 31 wherein said outer ply (b) has a thickness of 5 to 50 μm.

9. (Once Amended, Marked-Up) The multi-plied laminate of Claim [1] 31 wherein said outer ply (b) has a thickness of 10 to 30 μm.

10. (Once Amended, Marked-Up) The multi-plied laminate of Claim [1] 31 wherein said outer ply (b) has a thickness of 10 to 20 μm.

11. (Cancelled)

12. (Once Amended, Marked-Up) The multi-plied laminate of Claim [1] 31 wherein said inner ply (i) includes two plies.

13. (Twice Amended, Marked-Up) The multi-plied laminate of Claim [1] 31 wherein said [first] outer ply polymeric resin comprises at least one member selected from the group consisting of ethylene/vinyl acetate copolymer, ethylene/unsaturated ester copolymer, ethylene/unsaturated carboxylic acid copolymer, salt of ethylene/unsaturated carboxylic acid copolymer, low density polyethylene, high density polyethylene, and copolymer of ethylene and α-olefin having at least 3 carbon atoms.

17. (Once Amended, Marked-Up) The multi-plied laminate of Claim [1] 31 wherein said [second] inner ply polymeric resin comprises at least one member selected from the group consisting of ethylene/vinyl acetate copolymer, ethylene/unsaturated ester copolymer, ethylene unsaturated carboxylic acid copolymer, salt of ethylene/unsaturated carboxylic acid copolymer, low density polyethylene, high density polyethylene, and copolymer of ethylene and [a]α-olefin having at least 3 carbon atoms.

18. (Twice Amended, Marked-Up) The multi-plied laminate of Claim [1] 31 wherein said [first] outer ply polymeric resin comprises at least one member selected from the group consisting of: ethylene/vinyl acetate copolymer wherein content of vinyl acetate is at most 20 % relative to the weight of said copolymer[,]; ethylene/unsaturated carboxylic acid copolymer wherein content of carboxylic acid is at most 8 % relative to the weight of said copolymer[,]; salt of ethylene/unsaturated carboxylic acid copolymer having a content of carboxylic acid of at most 10 % relative to the weight of said copolymer[,]; low density polyethylene having a density of 0.91 to 0.935 g/cm^3[,]; and copolymer of ethylene and α-olefin having density of 0.90 to 0.94 g/cm^3.

19. (Twice Amended, Marked-Up) The multi-plied laminate of Claim [1] 31 wherein said [second] inner ply polymeric resin comprises at least one member selected from the group consisting of: ethylene/vinyl acetate copolymer wherein content of vinyl acetate is at most 20 % relative to the weight of said copolymer[,]; ethylene/unsaturated carboxylic acid copolymer wherein content of carboxylic acid is at most 8 % relative to the weight of said copolymer[,]; salt of ethylene/unsaturated carboxylic acid copolymer having a content of carboxylic acid of at most 10 % relative to the weight of said copolymer[,]; low density polyethylene having a density of 0.91 to 0.935 g/cm^3[,]; and copolymer of ethylene and α-olefin having density of 0.90 to 0.94 g/cm^3.

20. (Once Amended, Marked-Up) The multi-plied laminate of Claim [1] 31 wherein said outer ply (b) comprises a copolymer of ethylene and α-olefin.

23. (Once Amended, Marked-Up) The multi-plied laminate of Claim [1] 31 wherein [a] at least one of said inner ply (i) and said outer ply (b) include at least one of anti-blocking additives and[/or] dyes.

24. (Once Amended, Marked-Up) The multi-plied laminate of Claim [1] 31 wherein said outer ply (b) comprises [about] 0.1 to 2 % relative to the weight of said outer ply (b) of solid inorganic particles selected form the group consisting of silicon oxide, calcium carbonate, magnesium silicate, aluminum silicate, calcium phosphate and talc.

25. (Once Amended, Marked-Up) A composite film comprising the multi-plied laminate of Claim [1] 31.

26. (Twice Amended, Marked-Up) The composite film of Claim 25 further comprising a substrate selected from the group consisting of metal, cardboard, paper, paperboard, textile, non-woven fabric, woven fabric, plastic and composites

thereof, said plastic being other than said [first] outer ply polymer resin and said [second] inner ply polymer resin.

30. (Once Amended, Marked-Up) A composite film comprising the multi-plied laminate (I) of Claim [1] 31 as a heat sealable layer with said outer ply (b) being one outer layer of said laminate.

31. (Added) A multi-plied laminate (I) comprising:

an outer ply (b) having a melt flow rate (MFR), as determined in accordance with DIN ISO 1133 at 190°C and 2.16 kg, of at least 0.1g/10 min., and comprising an outer ply polymeric resin; and

at least one inner ply (i), each inner ply (i) having an MFR, as determined in accordance with DIN ISO 1133 at 190°C and 2.16 kg, that is greater than the MFR of said outer ply (b), and comprising an inner ply polymeric resin,

wherein the weight per area of said inner ply (i) is at least 40 % of the weight per area of said multi-plied laminate (I).